**Amendments to the Specification:**

Please replace original Paragraph No. 8 with the following rewritten paragraph:

-- [0008] In the primary extraction step 62, the copper is preferentially extracted into the organic phase according to the formula:

~~[CuSO4]aqueous + [2 HR]organic → [CuR2]organic + [H2SO4]aqueous~~

$$[CuSO_4]_{aqueous} + [2\ HR]_{organic} \Rightarrow [CuR_2]_{organic} + [H_2SO_4]_{aqueous}$$

where HR = copper extractant (chelator). --

Please replace original filed Paragraph No. 13 with the following rewritten paragraph:

-- [0013] The rich electrolyte 88 is directed to an electrowinning unit 90. Electrowinning consists of the plating of solubilized copper onto the cathode and the evolution of oxygen at the anode. The chemical reactions involved with these processes are shown below

~~Cathode: $CuSO4 + 2\ e^{1-} \rightarrow Cu + SO_4^{2-}$~~
~~Anode: $H2O \rightarrow 2H+ + 0.5\ O_2 + 2\ e^{1-}$~~

Cathode: $CuSO_4 + 2\ e^{1-} \Rightarrow Cu + SO_4^{2-}$

Anode: $H_2O \Rightarrow 2H^+ + 0.5\ O_2 + 2\ e^{1-}$ --

Please replace original Paragraph Nos. 21 through 23 with the following rewritten paragraphs:

-- [0021] As one aspect of the present invention, the mixing apparatus comprises a mixing head having a ~~tubular~~ blade portion centered about and defining a head axis and having a first ~~tube~~ end and a second ~~tube~~ end ~~spaced apart from one another therealong~~. --

[0022] The ~~blade portion tapers from the first tube end to the second tube end with the inner surface of the blade portion and the~~ second end ~~defining~~ defines an inside blade diameter "ID" and ~~the outer surface of the blade portion and~~ the first end ~~defining~~ defines an outer blade diameter "OD". The mixing apparatus further comprises mounting means for mounting the mixing head substantially coaxial to and within the vessel for longitudinal movement relative thereto. Also provided is a reciprocating means for effecting said longitudinal relative movement of the mixing head in a reciprocating manner through a stroke length "S", with a duration "T" for each cycle, wherein $175 \leq 0.36 \times OD^2/ID^2 \times S/T \leq 250$ when OD, ID and S are each expressed in inches, and T is expressed in minutes.

[0023] As other aspects of the invention, ~~the blade portion preferably tapers in a substantially frustoconical manner from the first tube end to the second tube end, and~~ an angle α, defined by the angle between the pair of axes defined by and coincident with the intersections of the ~~outer~~ surface of the blade portion and a plane coincident with the head axis, preferably ~~lies between 90 degrees and~~ is 180 degrees. --

Please delete original Paragraph No. 32.

Please replace original Paragraph No. 47 with the following rewritten paragraph:

-- [0047] Figure 9 is a bottom view of the mixing head ~~illustrated in Figure 2~~. --

Please replace original Paragraph No. 64 with the following rewritten paragraph:

-- [0064] The ~~tubular~~ blade portion 112 defines and is centered about the head axis H-H, such that the first ~~tube~~ end 120 and the second ~~tube~~ end 122 of the blade portion 112 are spaced apart from one another therealong, and the blade portion 112 tapers in a substantially frustoconical manner from the first ~~tube~~ end 120 to the second ~~tube~~ end 122. --

Please replace original Paragraph No. 79 with the following rewritten paragraph:

-- [0079] In the preferred embodiment, the yoke moves through a stroke length "S", with a duration "T" for each cycle, wherein $175 \leq 0.36 \times OD^2/ID^2 \times S/T \leq 250$ when T is expressed in minutes, S is expressed in inches, "ID" is an inside blade diameter, expressed in inches and defined by the inner surface 126 of the blade portion 112 and the second ~~tube~~ end 122, and "OD" is an outside blade diameter, expressed in inches and defined by the outer surface 128 of the blade portion 112 and the first ~~tube~~ end 120, as indicated in Figure 10. --

Please replace original Paragraph No. 93 with the following rewritten paragraph:

-- [0093] Without intending to be bound by theory, it is believed the mixing apparatus of the present invention provides mixing currents which [at least in the context of the liquids utilized in SXEW copper extraction, in a vessel having an internal diameter D and a height H, wherein OD:D is between about 1:2.5 to 1:4, ~~ID:OD~~ OD:ID is between about 1:0 to 1.5; and D:H is approximately 1:1] create a dispersion characterized by consistent sized droplets, uniformly distributed throughout the mixing vessel, whereas in a rotary mixer, there is a wide variation in drop sizes, and in the distribution of said drops, (perhaps due to the fact that the blade in a rotary mixer moves at different speeds along its length). This uniform dispersion is believed to provide an environment amenable to efficient mass transfer between phases, while at the same time providing for substantial disengagement of the mixed phases within a relatively short time frame. --

Please replace original Paragraph Nos. 107 through 109 with the following rewritten paragraphs:

-- [0107] As well, whereas in the preferred embodiment illustrated, the mixing head tapers uniformly along its length, so as to take on a substantially frustoconical shape, and the mounting means is adapted to mount the mixing head to the vessel with the first tube end disposed above the second tube end, it is possible for the mixing head to assume non frustoconical form~~, wherein the rates of taper differ at the top and bottom ends, and also for the mixing head to be disposed with the second tube end disposed above the first tube end, as illustrated in Figure 16~~.

[0108] Additionally, whereas the preferred blade portion and support webs are substantially smooth, it is contemplated that the blade portion 112 can be formed with a plurality of perforations 186 ~~each extending between the inner surface 126 and the outer surface 128~~, as illustrated in Figure 12, and that the support webs 116 may be provided with a plurality of perforations 188, as well as a plurality of tabs 190 each substantially overlying a respective perforation 188 and being connected to the support web 116 at one edge of said respective perforation 188 to form a gill, as illustrated in Figure 11. In this manner, the characteristics of the mixing currents produced by the blade portion in motion can be finely tuned to control the droplet size of the dispersion, and hence, the mixing efficiency of the device, which feature is not available in prior art mixers.

[0109] As a further alternative, illustrated in Figure 13, the blade portion 112 may be provided with a plurality of dimples 192 projecting outwardly therefrom ~~the outer surface 128 and inwardly from the inner surface 126~~. This allows fine tuning of the mixing device in a manner not taught by the prior art. --